Certification of

EXPLOSION PROTECTED ELECTRICAL EQUIPMENT

ANZEx Scheme

Certificate of Conformity

Certificate No: **ANZEx 13.2005** **Issue: 0** **15 February 2013** **Original Issue**

Applicant:

Pepperl+Fuchs GmbH
Lilienthalstrasse 200
68307 Mannheim
GERMANY

Electrical Equipment:

Isolation amplifier
Type KFD2-SRA-Ex2/Ex4

Type of Protection and Marking Code:

[Ex ia Ma] I
-20 °C ≤ Ta ≤ +60 °C
ANZEx 13.2005

Manufactured by:

Pepperl+Fuchs GmbH
Lilienthalstrasse 200
68307 Mannheim
GERMANY

Pepperl+Fuchs Pte Ltd
P+F Building
18 Ayer Rajah Crescent
SINGAPORE 139942

The certification database located at http://www.anzex.com.au shows the currency of this certificate.

Issued by:

Simtars

Safety in Mines, Testing and Research Station
2 Smith Street, REDBANK QLD 4301, Australia
Postal Address: PO Box 467, GOODNA QLD 4300, Australia
Phone: + 61 7 3810 6381 **Fax: + 61 7 3810 6366**

JAS-ANZ
www.jas-anz.org/register

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This certificate is granted subject to the conditions as set out in Standards Australia/Standards New Zealand P-008 Ex Mark Management Committee Publication MP87.1.

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0: 2007	**Explosive atmospheres** **Part 0: Equipment – General requirements**
IEC 60079-11: 2006	**Explosive atmospheres** **Part 11: Equipment protection by intrinsic safety "i"**

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

The equipment listed has successfully met the examination and test requirements as recorded in

Test Report No. and Issuing Body:	**DE/TUN/04/551055-3, DE/TUN/ExTR07.0017/00, DE/TUN/ExTR07.0017/01; TUV Nord NI13/0001; Simtars**
Quality Assessment Report No. and Issuing Body:	**DE/PTB/QAR06.0007, DE/PTB/QAR06.0008; PTB**
File Reference:	**12/0125**

Signed for and on behalf of issuing authority

Principal Engineer - Certification
Engineering, Testing and Certification Centre

Position

15 February 2013

Date of issue

This certificate is not transferable, remains the property of the issuing body and must be returned in the event of its being revoked or not renewed.

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Equipment:

The isolation amplifier type KFD2-SRA-Ex2/Ex4 is used as associated apparatus for the transmission of electrical signals from the explosion hazardous area into the safe area. The isolation amplifier is built as 2-channel or 4-channel type. Fault signal is transferred to the power rail.

The maximum permissible ambient temperature is +60°C.

Drawings:

Drawing No.	Drawing Title	Revision No.	Drawn/ Revision Date
16-568TV-00 (3 Sheets)	Description KFD2-SRA-Ex2 / Ex4	-	2007-May-21
16-568ZE-01 (2 Sheets)	Schematic KFD2-SRA-Ex2 / Ex4	-	2007-Mar-15
16-568ZE-03 (3 Sheets)	Set up KFD2-SRA-Ex2 / Ex4	-	2007-Apr-27
16-568ZE-05 (3 Sheets)	Layout KFD2-SRA-Ex2 / Ex4	-	2007-Mar-15
16-568ZE-06 (3 Sheets)	Transformer KFD2-SRA-Ex2 / Ex4	-	2007-Apr-25
16-568ZE-07 (2 Sheets)	Lacquering KFD2-SRA-Ex2 / Ex4	-	2007-Apr-27
16-568SI-10	Type Label KFD2-SRA-Ex*	-	2013-Feb-14

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Additional Information:

The following entity parameters shall be observed:

Safe area connections:

Power Supply (terminals 14 and 15 or PR1 and PR2):
- Rated voltage: 20-30 VDC
- Maximum voltage: Um = 40 V

Fault signal output (contacts PR2 and PR4):
- maximum voltage: Um = 40 V

Relay Outputs (terminals 7 and 8, 9 and 8, 10 and 11, 12 and 11):
- 253VAC 2A, 500VA, cos phi 0.7
- 125VAC, 4A, 500VA, cos phi 0.7
- 40VDC, 2A

Hazardous area connections:

Input Circuit (terminals 1 to 6):

	connecting point	
channel no.	terminal (+)	terminal (-)
1	2	1
2	2	3
3	5	4
4	5	6
or		
1	1	3
2	4	6

Maximum values for each circuit:
- Uo = 10 V
- Io = 14 mA
- Po = 35 mW (linear characteristic)
- Ci = negligible
- Li = negligible

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The capacitance and the inductance of the load connected to the input terminals of the equipment must not exceed the following values.

Group	Maximum permissible external capacitance Co	Maximum permissible external inductance Lo
I	83 μF	1 H

The above parameters apply if one of the two conditions below is met:
- The total Li of the external circuit (excluding the cable) is < 1% of the Lo value or
- The total Ci of the external circuit (excluding the cable) is < 1% of the Co value.

The above parameters must be reduced to 50% if both of the two conditions below are met:
- The total Li of the external circuit (excluding the cable) is ≥ 1% of the Lo value and
- The total Ci of the external circuit (excluding the cable is ≥ 1% of the Co value.

Routine testing of the transformer shall be carried out in accordance with clause 11.2 of IEC 60079-11: 2006.

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